

# GUIDE TO MULCH MATERIALS, RATES, AND USES

	Mulch Material	Quality Standards	<u>Application Rates</u>		Depth of Application	Remarks <u>1/</u>
			per 1,000 sq. ft.	per acre		
PATG Section IV	Asphalt Emulsion	SS-1 SS-K SM-K SM-2	14-28 gal.	600-1,200 gal.	--	Use as a film on seeded areas without additional mulch. Requires special equipment to apply. Application rate critical--too much prevents seedings from penetrating and too little prevents erosion control.
	Bagasse -Shredded Sugar Cane	Air-dried, well shredded	200-400 cu. ft., 14-28 bales	--	2"-4"	Most effective as a mulch around ornamentals, trees, shrubs, and small fruit. Excellent for erosion control. Resistant to wind blowing. Packaged in 100 lb. bales. Decomposes slowly.
	Cocoa Bean or Peanut Hulls	Air-dried free from excessive fine materials	200-400 cu. ft.	--	2"-4"	Most effective as a mulch around ornamentals. Excellent moisture conserver. Decomposes in about one year. Subject to wind blowing. Packaged in 50 lb. bags.
Pennsylvania	Compost or Manure	Well shredded; free from excessive coarse material.	400-600 lbs.	8-10 tons	--	Use strawy manure where erosion control is needed. May create problem with weeds. Excellent moisture conserver. Resistant to wind blowing.
	Cornstalks, Shredded or Chopped	Air-dried, shredded into 8" to 12" lengths.	150-300 lbs.	4-6 tons	--	Effective for erosion control, relatively slow to decompose. Excellent for mulch on crop fields. Has about same value as a cover crop. Resistant to wind blowing.
May 2002	Gravel, Crushed Stone or Slag	Washed; size 2B or 3A	9 cu.yds.		3"	Excellent mulch for short slopes and around woody plants and ornamentals. Use 2B where subject to foot traffic. (Approx. 2,000 lbs./cu. yd.)
	Hay or Straw	Air-dried; free from undesirable seeds and coarse materials.	75-100 lbs.	1.5-2.5 T.	Lightly cover 75 to 90% of surface.	Use straw where mulch effect is to be maintained for more than 3 months. Subject to wind blowing unless kept moist or tied down. Most common and widely used mulching material. Good for erosion control in critical areas.

TABLE 1 (Cont'd.)

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PATG Section IV	Mulch Material	Quality Standards	Application Rates		Depth of Application	Remarks <u>1</u> /
			per 1,000 sq. ft.	per acre		
Pennsylvania	Peat Moss	Dried, compressed, free from coarse materials.	200-400 cu. ft.		2'-4"	Most effective as a mulch around ornamentals. Subject to wind blowing unless kept wet. Packaged 100 lb. bales (6 cu. ft.). Excellent moisture holding capacity.
	Pine Straw or Needles	Air-dried, free from coarse objectionable material.	50-90lbs.	1-2 tons		Use at 2 ton/ac. where erosion control is desired. Resistant to wind blowing. Decomposes slowly.
	Sawdust, Green or Composted	Free from objectionable coarse material.	83-500 cu.ft.		1"-7"	Most effective as a mulch around ornamentals, small fruit, and other nursery stock. Special application rates--fruit trees 5-7"; blueberries 6"; vegetables and flowers 2-3"; blackberries and raspberries 4-7"; strawberries 3". Most resistant to wind blowing. Requires 30-35 lbs. N/ton to N deficiency while decaying mulch. 1 cu. ft. weighs 18 T., 24 lbs;
	Tanbark	Air-dried, nontoxic.	300-400 cu. ft.		3"-4"	Effective mulch around ornamentals. More resistant to wind blowing than peat moss. Excellent moisture holding capacity. Packaged in 50 lb. bags (approx. 2 cu. ft.).
May 2002	Wood Chips or Shavings	Green or air-dried. Free from objectionable coarse materials.	500-900 lbs.	10-20 tons	2"-7"	Has about the same use and application as sawdust but requires less N/ton (10-12 lbs.). Resistant to wind blowing. Decomposes slowly.
	Wood Excelsior	Green or air-dried burred wood fibers .024" X .031" x 4".	90 lbs. (1 bale)	2 tons		Effective for erosion control. Tiedown usually not required. Decomposes slowly. Subject to some wind blowing. Packaged in 80-90 lb. bales.

TABLE 1 (Cont'd.)

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PATG Section IV

Mulch Material	Quality Standards	Application Rates per 1,000 sq. ft.	per acre	Depth of Application	Remarks <u>1/</u>
Wood Fiber Cellulose (Partly digested wood fibers)	Dyed green. No growth or-ganism inhib-iting factors. Air-dried 30% fibers 3.7mm or longer.	25-30 lbs.	1,000 2,000 lbs.		Suited to short slopes. When used for erosion control on critical area, double application rate. Apply with hydro-mulcher. No tie-down required. (Use only during normal growing season.)

## MATS AND NETTING

Mulch Material	Quality Standards	Unit Size	Unit and Weight	Area Covered Per Unit	Remarks
Twisted Kraft Paper Yarn	Plain weave, warp 7 per inch, filling 4 per inch selvage edge with poly-propylene filament.	45'1 x 250 yd.	Roll 100 lbs.	312 1/2 Yds.	Use to hold seed and aid in germination without mulch. Tiedown according to manufacturing specifications.
Twisted Kraft Paper Yarn	Fungicide treated warp 1.1 pairs/in. filling 2.5/in.	45" x 250 yds.	Roll 80 lbs.	312 1/2 sq. yds.	Use over bare soil or sod to prevent erosion and hold seed. Good for waterways, critical slopes, and critical ditch bottoms. Tiedown with staples as per manufacturing specifications.
Jute, Twisted Yarn	Undyed, un-bleached plain weave warp 78 ends/ yd. weft 41 ends/yd.	48" x 50 yds. or 48" x 75 yds.	Roll 60 lbs. 90 lbs.	60 sq. yds. 100 sq. yds.	Use without additional mulch. Tiedown as per manufacturing specifications. Effective for erosion control on critical areas.

Pennsylvania

May 2002

TABLE (Cont'd).

MATS AND NETTING (continued)

Mulch Material	Quality Standards	Unit Size	Unit and Weight	Area Covered Per Unit	Remarks
Excelsior Wood Fiber Mats	Interlocking web of excelsior fibers with a mulch net backing on one side only.	36'1 X 30 yds.	Roll	1.6 1/2 sq. yds.	Use without additional mulch. Tiedown as per manufacturing specifications.
Glass Fiber	1/4" thick, 7/16 dia., holes on 1" centers.	72" x 30 yds.	Roll 56 lbs.	100 sq. yds.	Use without additional mulch. Tiedown with T bars as per manufacturing specifications.
Plastic	2-4 mils.	Variable up to 50' wide.			Use black for weed control; use white for seeding establishment without organic mulch. Release plastic after seeding is established. Effective moisture conservation and weed control for small fruits.

1/If All mulches will provide some degree of (1) erosion control, (2) moisture conservation, (3) weed control, and (4) reduction of soil crusting.

## MULCH ANCHORING GUIDE

Anchoring Method or Material	Kind of Mulch to be Anchored	How to Apply
A. Manual		
1. Peg and Twine	Hay or straw, shredded sugar cane or cornstalks. Pine straw.	After mulching, divide area into blocks approximately 1 sq. yd. in size. Drive 4-6 pegs per block to within 2" to 3" of soil surface. Secure mulch to soil surface by stretching twine between pegs in a crisscross pattern on each block. Secure twine around each peg with two or more turns. Drive pegs flush with soil where mowing and maintenance is planned.
2. Mulch netting	Hay or straw, shredded sugar cane or cornstalks, pine straw, com- post, wood shavings, tanbark.	Staple light-weight paper, jute, wood fiber, or plastic nettings to soil surface according to manufacturer's recommendations.
3. Soil and stones	Plastic	Plow a single furrow along edge of area to be covered with plastic, fold about 6" of the plastic into the furrow and plow furrow slice back over the plastic. Use stones to hold plastic down in other places, as needed.
4. Slit	Hay, straw or cornstalks	Cut mulch into soil surface with a square-edged spade. Make cuts in contour rows spaced 18" apart.
B. Mechanical		
1. Asphalt spray	Cocoa beans or peanut hulls, compost, wood chips, wood shavings, hay or straw, shredded sugar cane or cornstalks.	Apply with suitable spray equipment using the following rates: asphalt emulsion 0.04 gallons per square yard; liquid asphalt (rapid, medium, or slow setting) 0.10 gallons per square yard.
2. Pick Chain	Hay or straw, cornstalks, manure, compost, pine straw.	Use on slopes steeper than 3 to 1. Pull across slopes with suitable power equipment.

TABLE 2 (Cont'd.)

## MULCH ANCHORING GUIDE

Anchoring Method or Material	Kind of Mulch to be Anchored	How to Apply
3. Mulch anchoring tool or disk (smooth or notched)	Hay or straw, manure, corn- stalks, pine straw.	Apply mulch and pull a mulch-anchoring tool over mulch. When a disk (smooth) is used, set in the straight position and pull across the slope with suitable power equipment. Mulch material should be tucked into the soil surface about .3 inches.
4. Wood cellulose fiber	Hay or straw.	Apply 750 pounds in 2,000 gallons of water per acre.
5. Hemicellulose	Hay or straw	Apply according to manufacturer's recommendation. Material is water soluble until cured. Use when the weather is dry during the growing season.